

c.) Amendments to the claims.

Please amend claims 16, 19, 20, 44-46 and 49 as follows:

- Claim 1. (withdrawn) A monoclonal antibody which is specifically reactive against *B. anthracis*.
- Claim 2. (withdrawn) The antibody of claim 1 which is non-reactive against *B. cereus* or *B. thuringiensis*.
- Claim 3. (withdrawn) The antibody of claim 1 which is an IgA, IgD, IgE, IgG or IgM.
- Claim 4. (withdrawn) The antibody of claim 1 which is reactive against a surface protein of *B. anthracis*.
- Claim 5. (withdrawn) The antibody of claim 4 wherein the surface protein is an EA1 protein.
- Claim 6. (withdrawn) The antibody of claim 1 which binds to SEQ ID NO. 1.
- Claim 7. (withdrawn) The antibody of claim 1 which is specifically reactive against *B. anthracis* spores.
- Claim 8. (withdrawn) The antibody of claim 1 which is specifically reactive against *B. anthracis* vegetative cells.
- Claim 9. (withdrawn) A hybridoma that produces the antibody of claim 1.
- Claim 10. (withdrawn) The hybridoma of claim 9 which is derived from an animal selected from the group consisting of cattle, chickens, goats, guinea pigs, horses, mice, pigs, primates, rabbits, rats and sheep.
- Claim 11. (withdrawn) A hybridoma deposited with ATCC and accorded accession number PTA-2632.
- Claim 12. (withdrawn) Antibody isolated from the hybridoma of claim 11.
- Claim 13. (withdrawn) An isolated antibody, or reactive portion thereof, directed to the EA1 protein of *B. anthracis*.
- Claim 14. (withdrawn) The antibody or reactive portion thereof of claim 13 which is a murine antibody; a rabbit antibody; a rat antibody; a genetically engineered antibody; a

recombinant antibody; a humanized antibody; a polyclonal antibody or an affinity-purified antibody.

Claim 15. (withdrawn) The antibody or reactive portion thereof of claim 13 which is an Fab or Fv fragment.

Claim 16. (currently amended) A diagnostic kit comprising an isolated antibody ~~is specifically reactive against~~ that binds EA1 antigen and specifically binds spores or vegetative cells of *B. anthracis*, but not *B. thuringiensis* ~~or *B. cereus*~~.

Claim 17. (original) The diagnostic kit of claim 16 which incorporates a colloidal particle based lateral flow detection system.

Claim 18. (original) The diagnostic kit of claim 16 which incorporates a detection system selected from the group consisting of a carbon based lateral flow system; a fluorescent based assay system, a chemiluminescent system, an up converting phosphors system, a refractive indexed based detection system, a magnetic bead or latex bead system, and a micro array system.

Claim 19. (currently amended) A diagnostic kit comprising an isolated antibody that ~~is specifically reactive against~~ binds EA1 antigen and specifically binds spores of *B. anthracis* and not *B. thuringiensis*, and incorporates a colloidal particle based lateral flow detection system.

Claim 20. (currently amended) A diagnostic kit comprising an isolated antibody that ~~is specifically reactive against~~ binds spores of *B. thuringiensis* and not *B. anthracis*, and incorporates a colloidal particle based lateral flow detection system.

Claim 21. (withdrawn) A method for producing a species-specific monoclonal antibody to one species of *Bacillus* comprising: immunizing a host with a preparation of said one species of *Bacillus*; boosting said host with another preparation of an antigenically similar, but not identical, species of *Bacillus*; boosting said host with said preparation of said one species; fusing antibody-producing cells from the host with immortalized cells; and selecting a hybridoma that produces the species-specific monoclonal antibody to said one species of *Bacillus*.

Claim 22. (withdrawn) The method of claim 21 wherein the one species of *Bacillus* is *B. cereus*, *B. thuringiensis* or *B. anthracis*.

Claim 23. (withdrawn) The method of claim 21 wherein the other antigenically similar

species of *Bacillus* is *B. cereus*, *B. thuringiensis*, *B. anthracis* or combinations thereof.

Claim 24. (withdrawn) The method of claim 21 wherein the one species of *Bacillus* is *B. anthracis* and the other antigenically similar species of *Bacillus* is *B. cereus* or *B. thuringiensis*.

Claim 25. (withdrawn) The method of claim 21 wherein the one species of *Bacillus* is *B. thuringiensis* and the other antigenically similar species of *Bacillus* is *B. cereus* or *B. anthracis*.

Claim 26. (withdrawn) The method of claim 21 wherein the preparation of said one species comprises spores, vegetative cells or combinations thereof.

Claim 27. (withdrawn) The method of claim 21 wherein the preparation of said other antigenically similar species comprises spores, vegetative cells or combinations thereof.

Claim 28. (withdrawn) The method of claim 21 wherein the species-specific monoclonal antibody is selected from the group consisting of IgA, IgE, IgG, IgM and associated sub-types.

Claim 29. (withdrawn) The method of claim 21 wherein the host is selected from the group consisting of mice, rats, horses, cattle, chickens, sheep, goats, pigs and primates.

Claim 30. (withdrawn) The method of claim 21 wherein boosting with the antigenically similar species is performed about seven days prior to fusing.

Claim 31. (withdrawn) The method of claim 21 wherein boosting with *B. anthracis* is performed about three days prior to fusing.

Claim 32. (withdrawn) A species-specific monoclonal antibody to spores of *B. anthracis* made by the method of claim 21.

Claim 33. (withdrawn) A diagnostic kit comprising the antibody of claim 32.

Claim 34. (withdrawn) A hybridoma that expresses the antibody of claim 32.

Claim 35. (withdrawn) An antibody which is specifically reactive against *B. thuringiensis* and non-reactive against *B. cereus* or *B. anthracis*.

Claim 36. (withdrawn) An antibody which is specifically reactive against *B. cereus* and non-reactive against *B. anthracis* or *B. thuringiensis*.

Claim 37. (withdrawn) An isolated or recombinant antigen, or antigenically active portions thereof, comprising an EA1 protein of the surface layer of *B. anthracis*.

Claim 38. (withdrawn) A pharmaceutical composition comprising the antigen, or active

portions hereof, of claim 37 and a pharmaceutically acceptable carrier.

Claim 39. (withdrawn) A method of using the antigen, or active portions thereof, of claim 37 as the target for an immunological detection system for B. anthracis.

Claim 40. (withdrawn) A vaccine against B. anthracis comprising a therapeutically effective amount of the antigen, or active portions thereof, of claim 37.

Claim 41. (withdrawn) A method for vaccinating against B. anthracis comprising administering the therapeutically effective amount of the vaccine of claim 40 to a patient.

Claim 42. (withdrawn) A therapeutic agent comprising antibodies to the EA1 protein.

Claim 43. (withdrawn) A method for treating, preventing or controlling B. anthracis infection comprising administering an effective amount of the therapeutic agent of claim 42 to a patient.

Claim 44. (currently amended) The diagnostic kit of claim 16, wherein said isolated antibody ~~is~~ does not specifically ~~reactive with~~ bind B. thuringiensis and B. cereus.

Claim 45. (currently amended) A diagnostic kit comprising an isolated antibody that is specifically ~~reactive against~~ binds spores or vegetative cells of B. thuringiensis but not B. anthracis.

Claim 46. (currently amended) A diagnostic kit comprising an antibody that is specifically ~~reactive against~~ binds spores or vegetative cells of B. thuringiensis but not B. anthracis and B. cereus.

Claim 47. (previously added) The diagnostic kit of claim 45 which incorporates a colloidal particle based lateral flow detection system.

Claim 48. (previously added) The diagnostic kit of claim 45 which incorporates a detection system selected from the group consisting of a carbon based lateral flow system; a fluorescent based assay system, a chemiluminescent system, an up converting phosphors system, a refractive indexed based detection system, a magnetic bead or latex bead system, and a micro array system.

Claim 49. (currently amended) A diagnostic kit comprising an isolated antibody that is specifically ~~reactive against~~ binds spores of B. thuringiensis and

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not *B. anthracis* and *B. cereus*, and incorporates a colloidal particle based lateral flow detection system.